Preliminary Design of Regional Attenuation Pond 2a, Cherrywood

Habitat Management Plan | March 2021

dlr Comhairle Contae County Council

ROD ROUGHAN & O'DONOVAN

Preliminary Design of Regional Attenuation Pond 2a, Cherrywood

Habitat Management Plan

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1.0 INTRODUCTION

1.1 Background

Roughan & O'Donovan (ROD) was appointed by Dún Laoghaire-Rathdown County Council (DRLCC) to provide environmental consultancy services in relation to the proposed Preliminary Design of Regional Attenuation Pond 2a, Cherrywood ("the proposed development"). The proposed Regional Attenuation Pond 2A forms part of the Cherrywood Strategic Development Zone (SDZ) Storm Water Infrastructure, as identified in Chapter 4 of the Cherrywood Planning Scheme (CPS) prepared by DLRCC in their role as designated Development Agency for this SDZ. The CPS requires the delivery of the Regional Attenuation Pond 2A, to be located within the proposed linear park in Lehaunstown Development Area 1. A proposed greenway to the south of the pond, which will tie into a proposed greenway (by others) will also be provided as part of this development.

DLRCC appointed ROD to prepare the Habitat Management Plan for the proposed development, in accordance with Objective BP03 of the CPS Biodiversity Plan which states:

BP03: The applicant must provide a Habitat Management Plan detailing how retained habitats will be retained, protected and managed.

This Habitat Management Plan incorporates measures outlined in the Ecological Impact Assessment, the Invasive Species Management Plan and the Landscape Plan produced for the proposed development.

1.2 Location

Pond 2A and the greenway will be located within Lehaunstown Development Area 6, Cherrywood, Dún Laoghaire, Co. Dublin. This land is included within the Cherrywood development area which was designated as an SDZ in 2010, consisting of approximately 360 ha. Cherrywood is situated approximately 8km south of Dún Laoghaire Town Centre near Loughlinstown, between the N11 and the M50. Figure 1 shows the location and boundary of the site of the proposed development.

1.3 Purpose of the Plan

The purpose of the Habitat Management Plan is:

- To safeguard high-value habitats within and outside the proposed development boundary.
- To provide clear instruction and a timeline for the enhancement and monitoring of habitats within the site.
- To avoid or minimise the disturbance to or loss of semi-natural habitat, as per the CPS.
- To encourage retention of existing habitats of ecological importance as part of green infrastructure and hence create ecological corridors, as per the CPS.
- To promote management of retained and newly created habitats in order to maximise their biodiversity potential and minimise the net loss of biodiversity in the area, as per the CPS.

1.4 Guidance

The Habitat Management plan has been prepared with regard to the following documents:

- Preliminary Design of Regional Attenuation Pond 2a, Cherrywood Ecological Impact Assessment prepared for Dún Laoghaire-Rathdown County Council. (ROD, 2020a)
- Preliminary Design of Regional Attenuation Pond 2a, Cherrywood Invasive Species Management Plan prepared for Dún Laoghaire-Rathdown County Council. (ROD, 2020b)
- Cherrywood Pond 2 A, Lehaunstown Lane, Dublin 18 Schedule Of Landscape Work Maintenance & Management. Prepared for Dún Laoghaire-Rathdown County Council (CSR, 2020)
- Cherrywood Planning Scheme Biodiversity Plan. Dún Laoghaire-Rathdown County Council, Dublin. (Scott Cawley Ltd., 2012)
- Conserving Hedgerows (The Heritage Council, 2016)
- Guidance on good practice in the management and creation of small waterbodies in Scotland (SEPA, 2000)

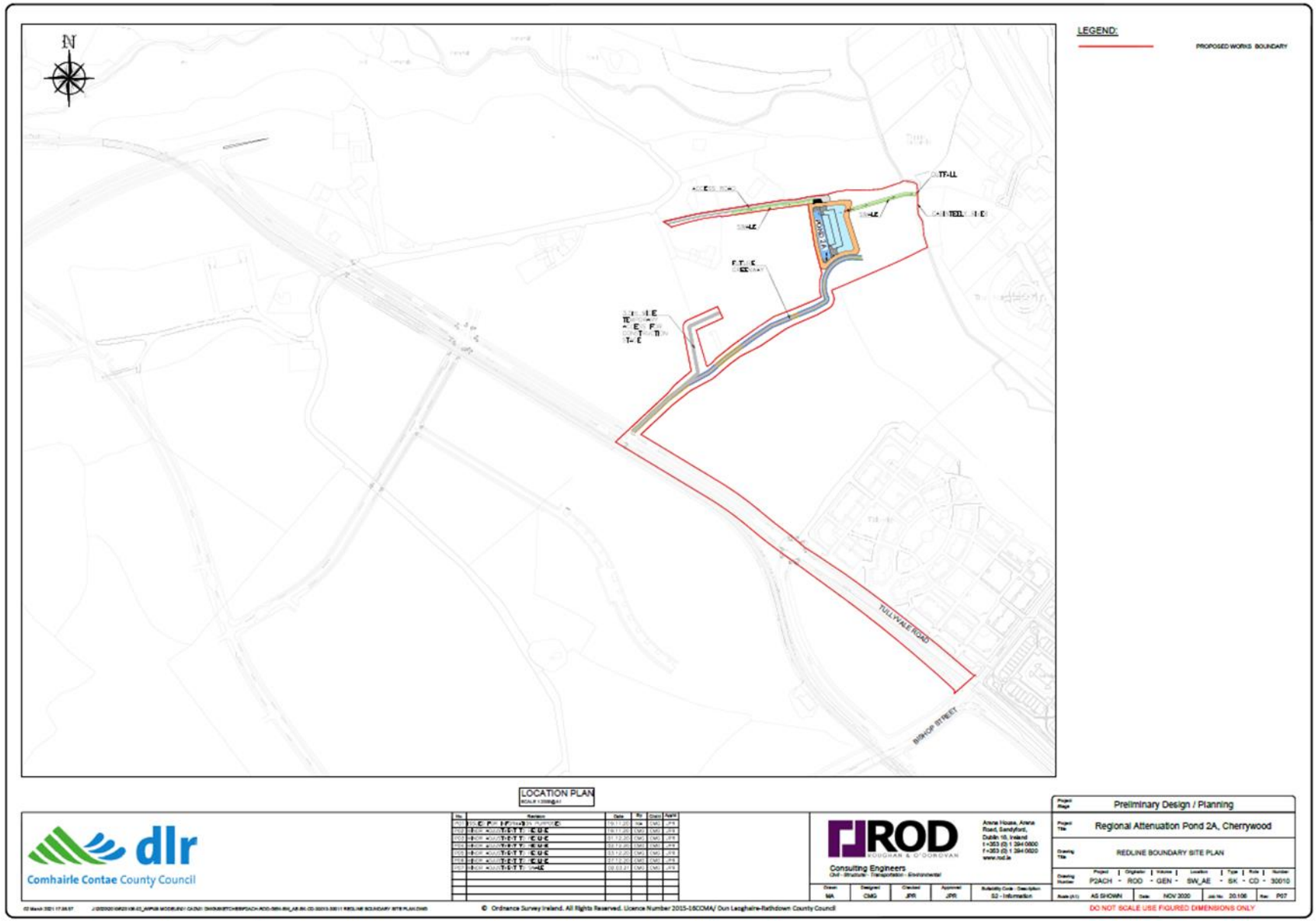

Figure 1. Location and boundary of the site of the proposed development.

2.0 METHODOLOGY

2.1 Desk Study

A desktop study was carried out to collate information on the habitats of within the site. As with all desk studies, the data considered was only as good as the data supplied by the recorders and recording schemes. The recording schemes provide disclaimers in relation to the quality and quantity of the data they provide, and these were considered when examining outputs of the desk study.

2.2 Habitat Survey

The habitat survey was undertaken on the 18th May 2020 and was undertaken to identify the type, quality and extent of habitats present within an area, and to identify any habitats or features that might require more detailed surveys.

Habitats were classified in accordance with the Heritage Council's *Guide to Habitats in Ireland* (Fossitt, 2000). Habitat mapping was undertaken with regard to guidance set out in *Best Practice Guidance for Habitat Survey and Mapping* (Smith et al., 2011).

2.3 Survey Limitations

The survey was carried out in May 2020, which is considered to fall within the optimal time of year for habitat surveys (April to September).

3.0 EXSITING HABITATS AND CURRENT MANAGEMENT

3.1 Existing Environment

The pond is situated in a field containing improved agricultural grassland which is subject to grazing by cattle. The field is bounded by the Cabinteely River to the east, by a hedgerow to the north and a treeline to the south. There is a private residence and a treeline at the west (upper end). The treeline has mature Ash trees with crowns extending up to 8m into the field. The field has an east facing bank. To the south the slope becomes mixed broadleaved woodland. There are some bare areas of flush and tufa spring in the adjacent field south of the proposed development. Scrub is encroaching onto the field. The greenway is located in a field containing semi-natural grassland.

The Cabinteely River (also known as the Carrickmines Stream) is located along the eastern boundary of the site. The river runs in a southerly direction adjacent to the site before flowing into the Shanganagh River which itself flows into Killiney Bay. The river and its flood plain form a primary ecological corridor (P1) as identified in the Cherrywood SDZ Biodiversity Plan. Watercourses can act as conduits for invasive species and both a pathway and receptor for pollutants to sensitive habitats/species located downstream of the proposed development.

A number of protected species including Badger, Otter and Bats have all been recorded at the site. An Ecological Impact Assessment (EcIA) (ROD, 2020a) is provided with the planning application which is included in the Part VIII planning application. The mitigation measures contained in this Habitat Management Plan are contained in the EcIA as mitigation measures to avoid and reduce the impact of the proposed development on Biodiversity, and where possible provide a Biodiversity net gain.

Giant Hogweed (*Heracleum mantegazzianum*), which is subject to restrictions as listed on the Third Schedule of the Birds and Natural Habitats Regulations was recorded within the study area. The main infestations are along the Cabinteely River on the eastern the boundary of the site. Plants growing on the river banks have formed mature stands measuring up to 3m tall. There were also a number of individual immature plants identified within the site boundary adjacent to the hedgerow on the southern boundary. These plants have been subject to grazing by cattle therefore limiting their growth within the field. Larger infestations of the Giant Hogweed were recorded outside the footprint of the proposed development within the grassland and woodland directly south of the site.

3.2 Habitats

A description of the habitats within the development site which could potentially impacted by the development are described below. See Appendix A for Habitat Map.

Depositing/Lowland Rivers (FW2)
This habitat refers to the Cabinteely River, which runs along the eastern boundary of the site (See Plate 1). The river is slow flowing which is characteristic of this habitat. There is considerable shading of the river due the overgrowth of vegetation on the banks including Giant Hogweed resulting in an absence of aquatic plants. Otter spraints were recorded on boulders along the river close to the project. The Cabinteely River has been included as a Key Ecological Receptor.

Improved Agricultural Grassland (GA1)

The field in which the pond is situated is composed almost entirely of this habitat type. This category is used for intensively managed or highly modified agricultural grassland that has been reseeded and/or regularly fertilized and is now heavily grazed and/or used for silage making. Improved agricultural grassland is typically species-poor. Species commonly recorded within the grassland included Perennial Rye Grass (*Lolium perenne),* Nettle (*Urtica dioica*), Spear Thistle (*Cirsium vulgare*) and Meadow buttercup (*Ranunculus acris*). At the time of the survey the field was being grazed by cattle.

Dry Meadows and Grassy Verges (GS2)
The field in which the greenway is located is composed of Dry Meadows and Grassy Verges This field which was likely used for agriculture has become overgrown and dominated by grass

Scrub (WS1)
Scrub was associated with the field boundaries on the site which is beginning to encroach on the improved agricultural grassland due to lack of management. Bramble (*Rubus fruticosus agg.*) and Blackthorn (*Prunus spinosa*) are the dominant shrubs.

Hedgerows (WL1)
Hedgerows are linear strips of shrubs, often with occasional trees, which typically form the boundaries of the fields within the study area. The hedgerows grade into scrub and mixed broadleaved woodland in places. Typical species recorded along the hedgerows included Hawthorn (*Crataegus monogyna*), Ash (*Fraxinus* excelsi*or*) *and Bramble (Rubus fruticosus* agg.). Hedgerows within the site are to be retained and protected in accordance with the Cherrywood SDZ Biodiversity Plan.

Treelines (WL2)
Treelines were common within the study area. Site boundaries were classed as treelines where they were more than 4m in height and where tree species were dominant. These habitats varied in species composition. The most dominant species associated with the treelines within with the study area were Ash (*Fraxinus excelsior*) Hawthorn (*Crataegus monogyna*) and Elder (*Sambucus nigra*), Sycamore (*Acer pseudoplatanus*) and Willow (*Salix spp.*). Ivy (*Hedera helix*) is a common component and at the base. The Cabinteely river is flanked by a treeline consisting of native and ornamental species.

3.3 Current Management

At present, there is no coordinated management of the site. At the time of the survey the field was being grazed by cattle.

4.0 PRESCRIBED MANAGEMENT

The following sections outline the management and enhancement measures to be undertaken to protect and enhance new and existing habitats within and outside the site of the proposed development.

4.1 Protection of Watercourses

The Cabinteely River is located along the eastern boundary of the site. As works are to take place within 10m of the river i.e. to accommodate the installation of a new outfall to the river, Inland Fisheries Ireland will be consulted in accordance with Objective BP11 of the CPS Biodiversity Plan which states:

BP11: Where works are taking place within 10m of the edge of a watercourse or tributary thereof, a Fisheries Protection/Construction Method Statement must be prepared demonstrating how pollution of watercourses during and after the construction period will be prevented and/or mitigated. This shall be developed in consultation with Inland Fisheries Ireland at application stage

The following protection measures will be followed to ensure water quality in the river is maintained:

- All machinery will be refuelled from mobile tankers on the local/access/haul/site roads. No refuelling will take place within 50m the watercourse.
- Mobile storage facilities, such as fuel bowsers, will be bunded to 110% capacity to prevent spills. Tanks for bowsers and generators will be double skinned.
- When not in use, all valves and fuel trigger guns from fuel storage containers will be locked.
- Only dedicated trained and competent personnel will carry out refuelling operations. A spill kit and drip tray will be on site at all times and available for all refuelling operations. Equipment will not be left unattended during refuelling. All pipework from containers to pump nozzles will have anti siphon valves fitted.
- Strict procedures for plant inspection, maintenance and repairs will be detailed in the contractor's method statements and machinery will be checked for leaks before arrival on site.
- All site plant will be inspected at the beginning of each day prior to use. Defective plant will not be used until the defect is satisfactorily fixed.
- All major repair and maintenance operations will take place off site.
- Care will be taken at all times to avoid contamination of the environment with contaminants other than hydrocarbons, such as uncured concrete and other chemicals.
- Surface water from the site be treated in attenuation ponds prior to entering the river.

4.2 Management of Ponds

The Project includes the construction of three ponds. One of these ponds will be permanently wet; the others will be ephemeral. The creation of the ponds will be done with regard to guidance set out in the *Guidance on good practice in the* management *and creation of small waterbodies in Scotland* (SEPA, 2000) in order to maximise their biodiversity potential. Permanent fencing will be erected around the ponds to protect this habitat from disturbance. The fencing will have gaps to allow amphibians and small mammals to get in. Terrestrial refugia will be next to the created pond which will consist of either log piles or clean inert material covered with topsoil. No mulch, geotextile membranes or similar will be used to suppress grasses around the ponds.

4.3 Management of Swales

Swales will be sown with meadow mix. These will be mown annually.

4.4 Management of Grassland

Existing grassland outside the footprint of the proposed development will be retained. Areas of bare ground will be seeded with meadow mix.

4.5 Management of Hedgerows and Treelines

The existing hedgerows and treelines along the northern and southern boundary lines are to be retained and protected in accordance with the objectives of the CPS, except at specific locations where vegetation removal is necessary to facilitate the proposed development: These locations are limited to:

- A section (up to 14.5m) of hedgerow along the southern boundary will be removed to accommodate the installation of an inlet pipe and facilitate the greenway; and,
- The hedgerow on the northern boundary of the site will be cut back to facilitate the construction of the access road.

Adequate protective fencing will be erected around trees and hedgerows which are to be retained and will include the 2.5m Root Protection Area, as stated in the Arboricultual Impact Assessment. The removal of the 14.5m of the hedgerow will be sited to minmise the loss of mature trees. The removal of mature trees of high ecological value will be avoided.

The landscape plan (CSR, 2020 – refer to Appendix B) outlines the methodologies for the planting of new hedgerows and trees within the site. When planting a hedgerow, a double line of trees is recommended. This may be supplemented with shrub species along the sides of the hedgerows/treelines to ensure cover for wildlife is created at the base for movement, nesting, establishing resting places, breeding etc. Reference should be made the Heritage Council guidance on Conserving Hedgerows (2002).

Consideration should also be made to the translocation of hedgerows that have to be removed as this can be effective at also moving the seed bank in the soil around the hedgerows.

All new hedgerows must have a 2m buffer on each side to protect the root zone from compaction and interference in accordance with Dún Laoghaire-Rathdown County Council's policy and Objective BP12 of the CPS Biodiversity Plan which states:

BP12: Require the planting of new hedgerows to take the form of a double line of native tree with shrub species. Translocation of existing hedgerows and their seed banks to new locations should be considered where feasible.

4.6 Proposed Planting

The Landscape Plan for the proposed development (see Appendix A) provides full details of planting within the site. This includes the planting of hedges and tress surrounding the pond, the planting of terraces within the new ponds and the sowing of meadow mix along the proposed swales. Planting will consist of locally sourced native species of national provenance only and, insofar as possible. Planting will be undertaken in accordance with the Pollinator Friendly Planting Code in the All Ireland Pollinator Plan 2015-2020. If soil/substrate needs to be imported to the site for the

purposes of the proposed development, the Contractor shall ensure that the imported soil/substrate is free from invasive species. The plan also includes measures for the maintenance of newly established vegetation.

4.7 Management of Scrub

Scrub is growing along the some of the field boundaries. Scrub is an important habitat for birds and mammals. Scrub will be retained outside the footprint of the project. Cutting will be carried out with special edge trimmers that do not damage small fauna.

4.8 Protection of birds

The protection of bird breeding habitats during the nesting season (1st March to 31st August, inclusive), are set out in the Wildlife Act. Any removal of vegetation within this period will require the supervision of a suitably qualified and experienced ecologist to ensure that no nesting birds are present.

4.9 Management of Invasive Species

The Project could result in spread of Giant Hogweed within and outside the site. An Invasive Species Management Plan (Refer to planning document Ref: P2ACH-ROD-EWE-SW_AE-RP-EN-30004) has been prepared in tandem with this assessment. The following measures are recommended:

- A site-specific biosecurity plan should be produced by the contractor in advance of the works.

At a minimum, this should include:

- Signage should be erected at the entrance to the site and along the southern and eastern boundaries to alert people that the site is contaminated with Giant Hogweed.
- All personnel on the site should attend a 'toolbox talk' as part of the site induction. The toolbox talk should include the identification of Giant Hogweed, a summary of the biosecurity measures in place and the safety risks associated with the plant.
- All Giant Hogweed plants within the works area i.e. in the field and along a small section of the western bank of the Cabinteely River at the location of the outfall, should be dug out and buried on site.
- A designated "clean car park" should be set out for vehicles traveling to and from the site, outside the contaminated areas.
- Disinfection station(s) should be set up where all staff should clean and disinfect their boots and any tools used during the operations. All heavy machinery used during the works will be power-washed before leaving the site.

The recommend measures set out in this plan are valid for the construction phase of the proposed development.

It is recommended that Dún Laoghaire-Rathdown County Council prepare a coordinated plan for the eradication of Giant Hogweed along the entire Carrickmines Stream catchment. Any actions short of a catchment wide management plan will be temporary and re-infestation from plants upstream inevitable.

5.0 MONITORING

Evaluation of the management practices is required to achieve long-term success. Monitoring will be carried out by a suitably qualified and experienced ecologist post construction to determine the effectiveness of management measures

6.0 CONCLUSION

Provided that the management measures outlined in this plan are implemented along with mitigation measures outlined in the Ecological Impact Assessment and Invasive Species Management Plan, there will be no significant impact to habitats within or outside the site. The construction of the pond and swales, and native planting, will lead to a biodiversity net gain overall. The success of management measures will be evaluated through post construction monitoring.

7.0 REFERENCES

CSR (2020) Cherrywood Pond 2 A, Lehaunstown Lane, Dublin 18 Schedule Of Landscape Work Maintenance & Management. Prepared for Dún Laoghaire-Rathdown County Council

Fossitt, J.A. (2000) A Guide to Habitats in Ireland. The Heritage Council, Kilkenny.

ROD (2020a) Preliminary Design of Regional Attenuation Pond 2a, Cherrywood Ecological Impact Assessment prepared for Dún Laoghaire-Rathdown County Council.

ROD (2020b) Preliminary Design of Regional Attenuation Pond 2a, Cherrywood Invasive Species Management Plan prepared for Dún Laoghaire-Rathdown County Council.

Scott Cawley Ltd. (2012) Cherrywood Planning Scheme Biodiversity Plan. Dún Laoghaire-Rathdown County Council, Dublin.

SEPA (2000) Guidance on good practice in the management and creation of small waterbodies in Scotland

The Heritage Council (2016) Conserving Hedgerows. The Heritage Council, Kilkenny.

Wildlife Act, 1976. No. 39 of 1976.

Wildlife Act, 1976 (Protection of Wild Animals) Regulations, 1990. SI No. 112/1990.

Wildlife (Amendment) Act, 2000. No. 38 of 2000.

Wildlife (Amendment) Act, 2012. No 29 of 2012.

Appendix A
Habitat Map

N

0 50 100 200 Meters

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Comhairle Contae County Council

Legend

Site Boundary	FW2	GS4
BL3	GA1	WD1
BL3/GA2	GS1	WL1
FP1	GS2	WN4
		WS1

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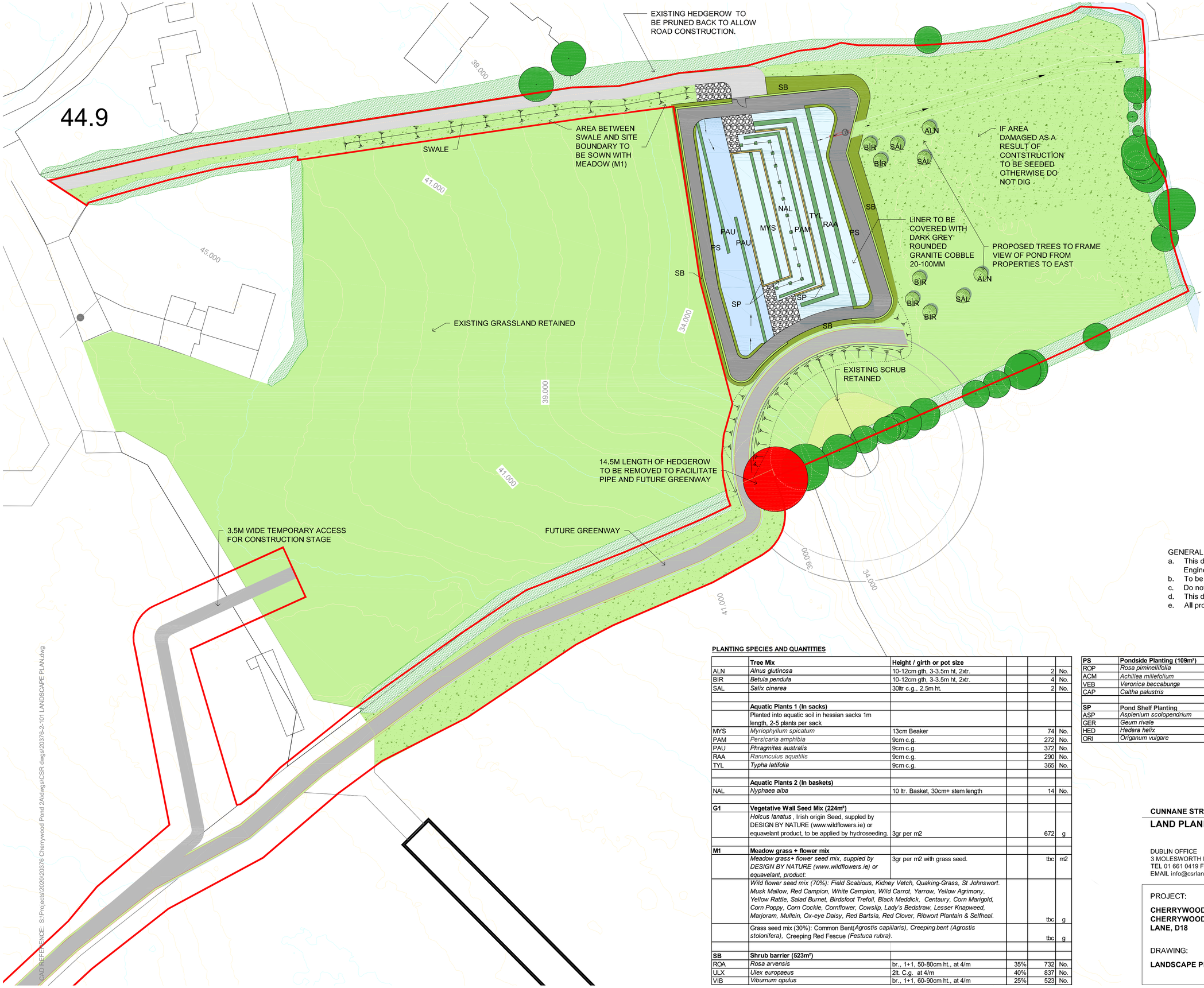
Preliminary Design of Regional Attenuation Pond 2a, Cherrywood

Habitat Map

Appendix B
Landscape Plan



KEY

- EXISTING TREE RETAINED
- ROOT PROTECTION AREA
- EXISTING TREE REMOVED
- PROPOSED TREES
- EXISTING HEDGEROW RETAINED
- AQUATIC PLANTS
- SHRUB AND PERENNIAL PLANTING
- SHELF PLANTING
- MEADOW PLANTING
- VEGATATIVE WALL
- TARMACADAM MAINTENANCE PATH
- TIMBER SLEEPER
- HIT AND MISS TIMBER POST AND PANEL FENCING 1100MM HEIGHT
- GABION to engineer's specification
- SITE BOUNDARY

GENERAL NOTES:

a. This drawing is to be read in conjunction with the Landscape Specification and Engineers Specification Documents.
b. To be read in conjunction with all other drawings.
c. Do not scale off drawing. Refer to dimensions given.
d. This drawing is for tender purposes only.
e. All products are as indicted or equivalent.

PLANTING SPECIES AND QUANTITIES

	Tree Mix	**Height / girth or pot size**			
ALN	*Alnus glutinosa*	10-12cm gth, 3-3.5m ht, 2xtr.		2	No.
BIR	*Betula pendula*	10-12cm gth, 3-3.5m ht, 2xtr.		4	No.
SAL	*Salix cinerea*	30ltr c.g., 2.5m ht.		2	No.
	Aquatic Plants 1 (In sacks)				
	Planted into aquatic soil in hessian sacks 1m length, 2-5 plants per sack				
MYS	*Myriophyllum spicatum*	13cm Beaker		74	No.
PAM	*Persicaria amphibia*	9cm c.g.		272	No.
PAU	*Phragmites australis*	9cm c.g.		372	No.
RAA	*Ranunculus aquatilis*	9cm c.g.		290	No.
TYL	*Typha latifolia*	9cm c.g.		365	No.
	Aquatic Plants 2 (In baskets)				
NAL	*Nyphaea alba*	10 ltr. Basket, 30cm+ stem length		14	No.
G1	**Vegetative Wall Seed Mix (224m²)**				
	Holcus lanatus , Irish origin Seed, suppled by DESIGN BY NATURE (www.wildflowers.ie) or equavelant product, to be applied by hydroseeding.	3gr per m2		672	g
M1	**Meadow grass + flower mix**				
	Meadow grass+ flower seed mix, suppled by DESIGN BY NATURE (www.wildflowers.ie) or equavelant, product:	3gr per m2 with grass seed.		tbc	m2
	Wild flower seed mix (70%): Field Scabious, Kidney Vetch, Quaking-Grass, St Johnswort. Musk Mallow, Red Campion, White Campion, Wild Carrot, Yarrow, Yellow Agrimony, Yellow Rattle, Salad Burnet, Birdsfoot Trefoil, Black Meddick, Centaury, Corn Marigold, Corn Poppy, Corn Cockle, Cornflower, Cowslip, Lady's Bedstraw, Lesser Knapweed, Marjoram, Mullein, Ox-eye Daisy, Red Bartsia, Red Clover, Ribwort Plantain & Selfheal.			tbc	g
	Grass seed mix (30%): Common Bent(*Agrostis capillaris*), *Creeping bent (Agrostis stolonifera)*, Creeping Red Fescue (*Festuca rubra*).			tbc	g
SB	**Shrub barrier (523m²)**				
ROA	*Rosa arvensis*	br., 1+1, 50-80cm ht., at 4/m	35%	732	No.
ULX	*Ulex europaeus*	2lt. C.g. at 4/m	40%	837	No.
VIB	*Viburnum opulus*	br., 1+1, 60-90cm ht., at 4/m	25%	523	No.

PS	**Pondside Planting (109m²)**				
ROP	*Rosa pimenellifolia*	br., 1+1, 30cm+ ht., at 4/m²	50%	218	No.
ACM	*Achillea millefolium*	1lt. c.g. at 9/m²	20%	196	No.
VEB	*Veronica beccabunga*	9cm c.g. at 9/m²	20%	196	No.
CAP	*Caltha palustris*	0.5ltr c.g. at 5/m²	10%	55	No.
SP	**Pond Shelf Planting**				
ASP	*Asplenium scolopendrium*	1lt. c.g. at 6/m²	50%	138	No.
GER	*Geum rivale*	1lt. c.g. at 9/m²	50%	207	No.
HED	*Hedera helix*	1lt. c.g. at 5/m²		105	No.
ORI	*Origanum vulgare*	1lt. c.g. at 9/m²		105	No.

B 03/02/2021 Planting/Swale
A 08/12/2020 Boundary

REV	DATE	AMENDMENT

CUNNANE STRATTON REYNOLDS
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N

PROJECT: **CHERRYWOOD POND2, CHERRYWOOD, LEHAUNSTOWN LANE, D18**	DATE:	DEC 2020
	SCALE:	1:500 @ A1
DRAWING: **LANDSCAPE PLAN**	DRAWN:	MN
	CHECKED:	LC
	DRAWING NO:	**20376-2-101**

CAD REFERENCE: S:\Projects\2020\20376 Cherrywood Pond 2A\dwgs\CSR dwgs\20376-2-101 LANDSCAPE PLAN.dwg

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